

CLAIMS

What is claimed is:

1. A method of processing data according to data type, the method performed by a slave processor and a main processor, wherein the slave processor stores and/or reads transmission data that is either type 1 data that has to be processed in real-time or type 2 data that does not have to be processed in real-time, and the main processor is connected to the slave processor to process at least one among the type 1 data and the type 2 data, the data processing method comprising:
 - the main processor:
 - transmitting at least one reference address to the slave processor;
 - storing the reference address to the slave processor;
 - analyzing whether transmission data to be communicated to the slave processor is the type 1 data or the type 2 data;
 - setting a relative address according to the analyzed result; and
 - transmitting the relative address to the slave processor, wherein the relative address is an address of the slave processor in which the transmission data to be transmitted to the slave processor is to be stored, or an address of the slave processor in which the transmission data to be received from the slave processor is stored; and
 - the slave processor:
 - storing the transmitted reference address;
 - determining whether the transmission data is the type 1 data or the type 2 data by comparing the relative address with the reference address; and
 - correcting errors generated when the transmission data is processed, using predetermined processes according to the determined data type.
2. The data processing method of claim 1, wherein the reference address or addresses are set by a user.
3. The data processing method of claim 1, wherein the type 1 data is audio data or audio-visual data.

4. The data processing method of claim 1, wherein the relative address is a logical block address.

5. The data processing method of claim 1, wherein the analyzing the type of the transmission data to be communicated to the slave processor comprises:

determining whether the transmission data is to be transmitted to the slave processor or received from the slave processor, wherein;

if the transmission data is to be transmitted to the slave processor,

determining whether the transmission data is the type 1 data or the type 2 data,

setting the relative address according to the determined result, and transmitting the set relative address and the transmission data to the slave processor; and

if the transmission data is to be received from the slave processor, transmitting the relative address of the slave processor in which the transmission data to be received from the slave processor is stored to the slave processor.

6. The data processing method of claim 5, wherein the determining whether the transmission data is the type 1 data or the type 2 data comprises analyzing a header of the transmission data.

7. The data processing method of claim 1, wherein the correcting of the errors generated when the transmission data is processed comprises:

determining if any errors are generated when the relative address is received from the main processor;

correcting the error or errors using a first process if the transmission data is the type 1 data; and

correcting the error or errors using a second process if the transmission data is the type 2 data, wherein the second process is different from the first process.

8. The data processing method of claim 7, wherein the determining if the data is the type 1 data or the type 2 data comprises determining in the slave processor whether a relative address value received from the main processor is larger than a reference address value.

9. The data processing method of claim 8, wherein the correcting of the errors generated when the transmission data is processed comprises:

setting the relative address value larger than the reference address value if the transmission data is the type 1 data, and setting the relative address value smaller than the reference address value if the transmission data is the type 2 data;

correcting the error or errors using the first process if the relative address value is larger than the reference address value; and

correcting the error or errors using the second process if the relative address value is smaller than the reference address value.

10. The data processing method of claim 8, wherein the correcting of the errors generated when the transmission data is processed comprises:

setting the relative address value smaller than the reference address value if the transmission data is the type 1 data, and setting the relative address value larger than the reference address value if the transmission data is the type 2 data;

correcting the error or errors using the first process if the relative address value is smaller than the reference address value; and

correcting the error or errors using the second process if the relative address value is larger than the reference address value.

11. The data processing method of claim 7, further comprising, determining whether an error exists in the error-corrected result, and notifying the main processor if the error exists in the error corrected result.

12. The data processing method of claim 7, wherein the transmission data is the type 2 data, the data processing method further comprising:

determining whether the type 2 data is non-decisive data or decisive data;

correcting the error or errors using the second process if the type 2 data is non-decisive data; and

correcting the error using a third process if the type 2 data is decisive data, wherein the third process is different from the second process.

13. The data processing method of claim 7, wherein the method further comprises:
comparing the relative address with a first reference address in the slave processor to determine whether the transmission data is the type 1 data or the type 2 data;

if the transmission data is the type 2 data, the slave processor comparing the relative address with a second reference address and determining whether the type 2 data is non-decisive data or decisive data; and

the main processor setting the relative address using the first reference address if the transmission data is type 1 data and setting the relative address using the first and second reference addresses if the transmission data is type 2 data.

14. The data processing method of claim 12, wherein the decisive data is log data.

15. An apparatus for processing data according to data type, comprising:

a slave processor which:

receives and stores at least one reference address,

receives a relative address,

determines whether transmission data is the type 1 data or the type 2 data by comparing the relative address with the reference address,

corrects errors generated when the transmission data is processed, using processes differently predetermined according to the determined result, and

stores or reads the transmission data; and

a main processor, wherein the main processor;

transmits and stores the reference address or addresses to the slave processor,

analyzes whether the transmission data to be communicated with the slave processor is the type 1 data or the type 2 data,

sets the relative address according to the analyzed result,

transmits the set relative address to the slave processor, wherein the relative address is an address of the slave processor in which the transmission data is to be stored or an address of the slave processor in which the transmission address to be received from the slave processor is stored, and

processes the transmission data, wherein the type 1 data has to be processed in real-time and the type 2 data does not have to be processed in real-time.

16. The data processing apparatus of claim 15, wherein the relative address is a logical block address.

17. The data processing apparatus of claim 15, wherein the slave processor comprises:

- a first memory to store the reference address or addresses received from the main processor;

- an error checker to check whether an error is generated, in response to the relative address received from the main processor, and output the checked result as a first control signal;

- a first data checker to compare the relative address with the reference address, in response to the first control signal, and output the compared result as a second control signal, the compared result indicating whether the transmission data is the type 1 data or the type 2 data;

- an error corrector to correct errors using a first process or a second process wherein the second process is different from the first process, in response to the second control signal, and output the corrected result; and

- a data processor to store the transmission data received from the main processor, in response to the first control signal, or transmit the stored transmission data to the main processor.

18. The data processing apparatus of claim 17, wherein the slave processor further comprises:

- a second data checker to determine whether the data, determined to be type 2 data, is non-decisive data or decisive data, in response to the second control signal, and output the determined result as a fourth control signal, wherein the error corrector corrects errors using the first process, the second process, or a third process, the third process being different from the second process, in response to the second and fourth control signals, and outputs the corrected result.

19. The data processing apparatus of claim 17, wherein the slave processor further comprises:

a second data checker to determine whether the data, determined to be the type 2 data, is non-decisive data or decisive data, in response to a manually input control signal, and output the determined result as a fourth control signal, wherein the error corrector corrects errors using the first process, the second process, or a third process, the third process being different from the second process, in response to the second and fourth control signals, and outputs the corrected result.

20. The data processing apparatus of claim 17, wherein the slave processor further comprises:

a correction checker to check whether an error exists in the corrected result received from the error corrector, and output the checked result as a third control signal; and

a notifier to notify the main processor of the existence of an error or errors, in response to the third control signal, wherein the data processor stores the transmission data received from the main processor or transmits the stored transmission data to the main processor, in response to the first or the third control signal.

21. The data processing apparatus of claim 18, wherein:

the slave processor receives and stores a plurality of reference addresses, the plurality of reference addresses comprising a first reference address and a second reference address;

the first data checker compares the relative address with the first reference address in response to the first control signal, and outputs the compared result as the second control signal, the compared result indicating whether the transmission data is the type 1 data or the type 2 data,

if the transmission data is determined to be the type 2 data, the second data checker compares the relative address with the second reference address, in response to the second control signal, and outputs the compared result as a fourth control signal, the compared result indicating whether the data is non-decisive data or decisive data, and

the main processor sets the relative address using the first reference address if the transmission data is the type 1 data, and sets the relative address using the second reference address if the transmission data is the type 2 data.

22. The data processing apparatus of claim 15, wherein the main processor comprises:

- a second memory to store the reference address or addresses;
- a transmission checker to check whether the transmission data is to be transmitted to the slave processor and output the checked result as a fifth control signal;
- a third data checker to determine whether the transmission data is the type 1 data or the type 2 data, in response to the fifth control signal, and output the determined result as a sixth control signal;
- a relative address setter to set a relative address of the slave processor in which the transmission data to be received from the slave processor is stored or a relative address of the slave processor in which the transmission data to be transmitted to the slave processor is to be stored, in response to the fifth and sixth control signals, and outputs the set relative address;
- and
- a transmitter to transmit the reference address, the relative address, and the transmission data to the slave processor.

23. The data processing apparatus of claim 17, wherein the main processor sets a relative address value larger than a reference address value if the transmission data is the type 1 data, and sets the relative address value not larger than the reference address value if the transmission data is the type 2 data.

24. A computer readable medium on which a program for implementing a method for processing data according to data type, wherein the method comprises:

- receiving transmission data, wherein the transmission data is either type 1 data which has to be processed in real time, or type 2 data which does not have to be processed in real time;
- determining whether the transmission data is the type 1 data or the type 2 data;
- processing the transmission data;
- detecting if errors were generated during the processing of the transmission data;
- correcting the errors generated during the processing of the transmission data using a first error correction process if the transmission data is the type 1 data and using a second error correction process if the transmission data is the type 2 data.

25. The computer readable medium of claim 24, wherein the type 1 data is audio data.